IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of

MAGNUSSON et al   Atty. Ref.: 4208-33

Serial No. 10/583,259   Group: 2617

Filed: June 16, 2006   Examiner: Obayanju, Omoniyi

For: SYSTEM AND METHOD FOR RADIO RESOURCE
        MANAGEMENT IN A COMMUNICATION SYSTEM

* *

May 24, 2010

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

I. REAL PARTY IN INTEREST

The real party in interest is the assignee, Telefonaktiebolaget L M Ericsson (publ), a Swedish corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals related to this subject application. There are no interferences related to this subject application.

III. STATUS OF CLAIMS

Claims 24-33, 35-44, 46, 50, and 51 are pending in the application. Claims 1-23, 34, 45, and 47-49 are canceled. Claims 24-33, 35-44, 46, 50, and 51 are twice rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

There are no amendments filed after the office action mailed February 23, 2010.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The technology in this case relates to a multi-access system that includes overlapping radio access networks that use different access technologies. For example, a communication system may comprise a WCDMA network, a GSM network, and a Wireless Local Area Network (WLAN) covering a common area. In order to connect a user terminal in a multi-access communication system to the access network with the best connection for the user's current communication purpose, there is a need to coordinate radio resource management for the different access networks in the multi-access communication system. There is also a need for such management to be easily expandible to accommodate new access technologies. In addition to obtaining the best connection for users, radio resource management should also preferably provide other benefits like improved system performance and the ability to prioritize certain operator services.

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The claims are directed to technology that extracts relevant information upon which resource management decisions are based by sniffing messages sent within an access network. This access relevant information could be, e.g., radio signal measurements, such as signal strength, regarding the radio connection between a radio terminal and an access point, base station, or equivalent node. The access relevant information could also be, e.g., any type of system load measurements, such as the load of an access point, base station, or equivalent node. The access relevant information for the different networks is collected and compared to provide the best connection to the terminal of a user.

Using existing <u>internal</u> interfaces to obtain the access relevant information makes it is easier to accommodate a new access network using a new access technology. Examples of existing internal interfaces with a network include the Iu, A/Gb, Iub, Iur, Abis, and Iurg as shown in Figure 4. In other words, it is not necessary to introduce or standardize one or more new specific interfaces between the new access network units and a common radio resource manager for reporting access relevant information to the common radio resource manager. Instead, the common radio resource manager obtains the access relevant information from sniffing on the internal interfaces already within the new access network.

Figure 2 reproduced below shows a non-limiting example of a system for managing radio resources to provide wireless access to a multi-access communication system to a number of terminals. The WLAN-MT 133 of a radio

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terminal 130 measures a WLAN (a first type of access network) radio signal

quantity, e.g., WLAN signal strength (SS), and sends the WLAN SS measurement

value to the WLAN network 120. The WCDMA-MT 132 of the radio terminal

130 measures a WCDMA (a second different type of access network) radio signal

quantity, e.g., WCDMA signal strength (SS), and sends the WCDMA SS

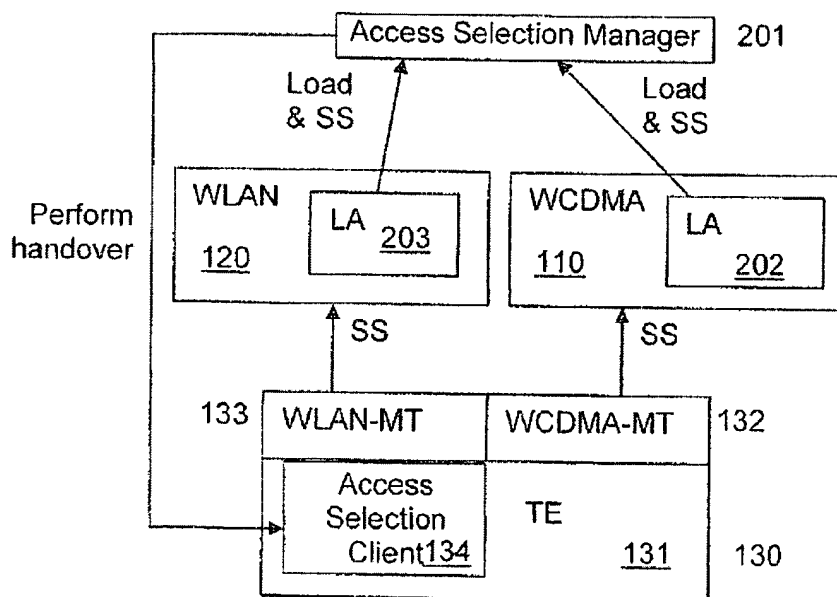measurement value to the WCDMA network 110.

Figure 2

A first listening agent 203 in the WLAN network 120 sniffs existing

messages distributed within the WLAN network with the purpose to find access

relevant information in the messages. As defined in the specification at page 9,

lines 31-34, to "sniff a message means to read not only the source and destination

address of a message but also the data of the message without influencing the

message." The sender and the receiver of the message do not need to know that

the message was sniffed. The messages sniffed in the WLAN network 120

include access relevant information such as for example the WLAN SS

measurements sent from the WLAN-MT 133 to the WLAN network 120 and/or

information regarding the load in the WLAN network, such as the load of the

access point to which the WLAN-MT 133 is connected. Similarly, a second

listening agent 202 in the WCDMA network 110 sniffs existing messages

distributed within the WCDMA network with the purpose to find access relevant

information in the messages.

The extracted access relevant information from the sniffed messages within

the WLAN network and the WCDMA network are sent to an access selection

manager 201 which compares that information. Based on this comparison,

manager 201 determines the access network that the terminal 130 should access.

This determination may for example result in a handover decision from one access

network to the other.

The following is a mapping of the independent claims onto non-limiting

example text from the specification and figures by reference numerals where

appropriate. This mapping is not intended to be used for claim construction.

24. A method (steps 901-903 and 905-906 in Figure 9) for managing radio

resources for providing wireless access to a communication system (Figure 1) to a

number of terminals (130), wherein the communication system comprises a first

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access network (120) using a first access technology and a second access network

(110) using a second access technology different from the first access technology,

wherein the method comprises the steps of:

receiving access relevant information from the first access network and the

second access network, wherein the access relevant information comprises

information extracted by sniffing messages sent within the first access network

that describes a state of at least one of the access networks based on signal

measurements and/or load measurements (page 9, line 28-page 10, line 15);

wherein the messages are sniffed by a listening agent (LA 203 or LA 202 in

Figure 2) and are directed to an entity in the first access network other than the

listening agent (access selection manager 201 in Figure 2), and wherein sniffing a

message includes reading a source address, a destination address, and a data

payload of the sniffed message without influencing the sniffed message (page 9,

lines 31-33);

comparing the received access relevant information extracted from

messages sent within the first access network to access relevant information

received from the second access network, wherein the access relevant information

is expressed in comparable quantities (page 10, lines 15-19); and

determining which access network that provides a best connection to a

terminal and which access network should be accessed, based on at least a result

of the comparison of the received access relevant information extracted from

messages sent within the first access network to the access relevant information

received from the at least one second access network (page 10, lines 18-19).

35. A system (Figure 2) for managing radio resources for providing

wireless access to a communication system (Figure 1) to a number of terminals

(130), wherein the communication system comprises a first access network (120)

using a first access technology and a second access network (110) using a second

access technology different to the first access technology, wherein the system for

managing radio resources comprises:

at least one listening agent (LA 203 or LA 202 in Figure 2) arranged to:

extract access relevant information for at least the first access

network by sniffing messages sent within at least the first access network, wherein

the access relevant information comprises information describing a state of at least

one of the access networks based on signal measurements and/or load

measurements (page 9, line 28-page 10, line 15), wherein the messages are

directed to an entity in the first access network other than the listening agent

(access selection manager 201 in Figure 2), and wherein sniffing a message

includes reading a source address, a destination address, and a data payload of the

sniffed message without influencing the sniffed message (page 9, lines 31-33);

send the access relevant information to an access selection manager

(page 10, lines 12-15),

an access selection manager (201 in Figure 2) arranged to:

compare the received access relevant information extracted from the

first access network to access relevant information received from second access

network, wherein the access relevant information is expressed in comparable

quantities (page 10, lines 15-19); and

determine which of the first access network and the second access network

provides the best connection to a terminal and which access network should be

accessed based at least on the comparison of the access relevant information

extracted from the first access network to the access relevant information received

from the at least one second access network (page 10, lines 18-19).

46. A listening agent (LA 203 or LA 202 in Figure 2) for use in a system

(Figure 2) for managing radio resources, which system provides wireless access to

a communication system (Figure 1) to a number of terminals (130 in Figure 2),

wherein the communication system comprises a first access network (120 in

Figure 2) using a first access technology and a second access network (110 in

Figure 2) using a second access technology different to the first access technology,

wherein the listening agent is arranged to:

extract access relevant information for at least the first access network by

sniffing messages sent within at least the first access network, wherein the access

relevant information comprises information describing a state of at least one of the

access networks based on signal measurements and/or load measurements (page 9, line 28-page 10, line 15);

wherein the sniffed messages are directed to an entity (access selection manager 201 in Figure 2) in the first access network other than the listening agent, and wherein sniffing a message includes reading a source address, a destination address, and a data payload of the sniffed message without influencing the sniffed message (page 9, lines 31-33); and

send the access relevant information to an access selection manager (page 10, lines 12-15) for use in selecting which access network provides a best connection to a terminal and which access network should be accessed based on at least a result of a comparison of the sent access relevant information and access relevant information received for the second access network (page 10, lines 18-19).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The first ground of rejection to be reviewed by the Board is the rejection of

all pending claims 24-26, 28-29, 32, 33, 35-37, 39, 40, 43, 44, and 46 under 35

U.S.C. §103 as being unpatentable based on D'Argence (WO 02104054) in view

of Bhagwat et al. (US Publication No. 20050128989).

The second ground of rejection to be reviewed by the Board is the rejection

of all pending claims 27 and 38 under 35 U.S.C. §103 as being unpatentable based

on D'Argence (WO 02104054) in view of Bhagwat et al. (US Publication No.

20050128989) and Lee (6,657,981).

The third ground of rejection to be reviewed by the Board is the rejection of

all pending claims 30 and 41 under 35 U.S.C. §103 as being unpatentable based on

D'Argence (WO 02104054) in view of Bhagwat et al. (US Publication No.

20050128989) and Nikkelen (20030207688).

The fourth ground of rejection to be reviewed by the Board is the rejection

of all pending claim 31 under 35 U.S.C. §103 as being unpatentable based on

D'Argence (WO 02104054) in view of Bhagwat et al. (US Publication No.

20050128989) and Brahmbhatt (20060116170).

The fifth ground of rejection to be reviewed by the Board is the rejection of

all pending claim 42 under 35 U.S.C. §103 as being unpatentable based on

D'Argence (WO 02104054) in view of Bhagwat et al. (US Publication No.

20050128989), Nikkelen (20030207688), and Brahmbhatt (20060116170).

The sixth ground of rejection to be reviewed by the Board is the rejection of all pending claims 50 and 51 under 35 U.S.C. §103 as being unpatentable based on D'Argence (WO 02104054) in view of Bhagwat et al. (US Publication No. 20050128989) and Laroia (20050124344).

VII. ARGUMENT

The Obviousness Rejection of Claims 24-33, 35-44, 46, 50, and 51 Under 35 U.S.C. §103 Based on D'Argence in view of Bhagwat Is Improper

1.   The Legal Standard For Obviousness

An invention is obvious only "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains." 35 U.S.C. §103. Obviousness is a legal conclusion based on underlying findings of fact. *In re Dembiczak,* 175 F.3d 994, 998 (Fed. Cir. 1999). The underlying factual inquiries are: "(1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness." *Id.*

In *KSR International Co. v. Teleflex, Inc.,* 127 S. Ct. 1727, 1739 (2007), the Supreme Court rejected the Federal Circuit's rigid application of the teaching-suggestion-motivation ("TSM") test. However, in evaluating obviousness in light of multiple interrelated patents, a determination must still be made "whether there

was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 1741. The Examiner must provide an explicit analysis with supported, articulated reasoning, that includes "an apparent reason to combine the known elements" in the manner claimed. *Id.* at 1740-41 ("To facilitate review, this analysis should be made explicit."). The Supreme Court stated that this requirement cannot be satisfied by conclusory statements without articulated reasoning and some rational underpinning to support the legal conclusion of obviousness. *Id.* at 1741.

2. The Applied References

D'Argence discloses a communication system comprising a common radio resource manager (CRRM) that coordinates the use of the radio resources from different radio access systems. The CRRM receives information required for the CRRM to perform the resource management algorithms from network elements. D'Argence defines specific external interfaces and dedicated signaling between network entities and the CRRM in order to provide the CRRM with the information it requires (page 8, line 9-24). The CRRM function makes specific requests to relevant network entities for the information it requires (page 16, line 8-18).

Bhagwat concerns a method and a system for intrusion detection in wireless systems. A sniffer 122 monitors wireless activity in an air space to detect a violation of a security policy. The sniffer is used to protect against unauthorized

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wireless activity, e.g., an unauthorized access point (AP) masquerading as an

authorized AP which may also be luring authorized clients to connect to it. A

detection violation of the security policy by wireless activity in the unsecured

airspace is used to permit, deny, or ignore the violating wireless activity.

3. The Combination of D'Argence and Bhagwat Does Not Teach the Invention Defined in the Independent Claims

The final action admits that D'Argence lacks multiple features from the

independent claims (the action quotes from claim 24) in the text bridging pages 6

and 7:

- "wherein the access relevant information comprises information extracted by sniffing messages sent within the first access network that describes a state of at least one of the access networks based on signal measurements and/or load measurements"
- "wherein the messages are sniffed by a listening agent and are directed to an entity in the first access network other than the listening agent"
- "wherein sniffing a message includes reading a source address, a destination address, and a data payload of the sniffed message without influencing the sniffed message"
- "determining which access network that provides a best connection to a terminal."

Bhagwat included in D'Argence does not teach the invention defined in the

independent claims 24, 35, and 46. First, it is important to understand that

D'Argence defines specific external interfaces and dedicated signaling between

network entities and the CRRM in order to provide the CRRM with the

information it requires (page 8, line 9-24). D'Argence states: "[t]he CRRM 18 is

designed to have simple interfaces with the controllers which can provide the

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CRRM 18 with the information that is required for the CRRM to perfom the resource management algorithms" (page 8, line 9-12). See also the CRRM-specific interfaces Iuc1, Iuc2, and Iuc3 in Figure 6 and the text at page 17, line 28-page 18, line 8 ("**Three interfaces are defined**....Using the first interface, the CRRM requests and obtains..."). See also the "CRRM receives the load information from wherever is necessary ... via **its** interfaces" (page 18, lines 23-25). The CRRM function **makes specific requests** to relevant network entities for the information it requires: "CRRM makes a request to the relevant entity... for information about the cell status" (page 16, line 8-18). As a result, there is no need or reason in D'Argence to sniff messages sent over existing internal interfaces within an access network to obtain the claimed access relevant information because the foundational teaching in D'Argence is based on access relevant information being explicitly and directly sent to the CRRM over external CRRM interfaces.

Second, even assuming the combination of D'Argence and Bhagwat could be made for purposes of argument only, that combination results in a system having specific interfaces between access network units with network entities reporting access relevant information to D'Argence's CRRM with a security system including sniffers like that described in Bhagwat. Adding the security sniffer does not remedy the admitted deficiencies of D'Argence.

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As the Examiner identifies at the top of page 6 of the office action, page 17, line 4-15 of D'Argence explains that first and second access network relevant information is received by the CRRM via the special interfaces to the CRRM, e.g., special interfaces 80 and 82 (Iuc2) are used. Special report messages specifically for the CRRM are sent explicitly from a mobile based RRM 32 or a cell RRM entity 30 to the CRRM over special interfaces outside of the access network. These report messages are not "directed to an entity in the first access network other than the listening agent," and they are not extracted from messages "sent within the first access network." The report messages are created for and specifically directed to the CRRM in D'Argence.

The Examiner's argument that sniffing is well known is not the correct analysis. Sniffing may be known in general or to be useful for security purposes as in Bhagwat. But sniffing is not known in the context of the claimed technology where the sniffer provides an access selection manager with access relevant information for at least the first access network extracted by sniffing messages sent within at least the first access network. Although the addition of Bhagwat's security sniffer to D'Argence's system could improve security, that security sniffer does not affect how D'Argence (1) obtains access relevant information or (2) determines an appropriate access network for a terminal based on that extracted access information. A security sniffer would not be involved in either of these operations because there is no need in D'Argence to sniff messages sent

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within an access network for the CRRM to obtain the access relevant information. Instead, that access relevant information is sent directly to D'Argence. Moreover, Bhagwat's sniffer simply detects an unauthorized access point (AP) masquerading as an authorized AP, which is not the claimed access relevant information, and it is not used to determine which authorized access network provides the best connection for a terminal.

The Examiner argues in the final action at the bottom of page 3 that the claim language "information extracted by sniffing messages sent within the first access network" is not "uniquely and particularly" defined. This "uniquely and particularly" text applied by the Examiner is the proper legal standard under 35 U.S.C §103. In addition, a broadest reasonable interpretation of the claims does not mean that the specifically claimed context in which sniffing is claimed and described in the specification can be ignored. It is the use of the words in the context of the written description and customarily by those skilled in the relevant art that accurately reflects both the "ordinary" and the "customary" meaning of the terms in the claims. *Ferguson Beauregard/Logic Controls v. Mega Systems*, 350 F.3d 1327, 1338 (Fed. Cir. 2003). The interpretation must be reasonable when interpreted by one of ordinary skill in the art in light of the specification. "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v.*

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AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*). See also MPEP §2111.01 (III).

The independent claims not only specifically define sniffing, they set forth what messages are sniffed, what information from the sniffed messages is extracted, and what specifically is done with that extracted information.

4. The Combination of D'Argence and Bhagwat Is Improper

Also, Applicants do not understand the Examiner's stated reason for combining D'Argence with Bhagwat: "to achieve the goal of removing only the desired configuration information from a packet in a communication system." How does a security sniffer achieve this goal in D'Argence? What is "the desired configuration information" in D'Argence? Why would one skilled in the art be motivated to remove that "desired configuration information?" These question demonstrate that the Examiner fails to provide a legitimate reason for combining Bhagwat with D'Argence. Moreover, the Examiner is not even able to point to where Bhagwat at least teaches a communication system with a plurality of access networks using different access technologies.

To modify D'Argence so that it no longer uses the specific CRRM interfaces and specific CRRM-directed report messages and instead uses a sniffer to extract the information in those specific CRRM directed report messages from some other unidentified messages in D'Argence changes the fundamental way in which D'Argence operates. A proposed modification that renders a prior art

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reference inoperable for its intended purpose is inappropriate for an obviousness inquiry. *In re Fritch*, 972 F.2d 1260, 1265-66 (Fed. Cir. 1992). This kind of fundamental change is also the very kind of improper hindsight reconstruction of the claimed invention that the Federal Circuit does not permit.

5. The Combination of D'Argence and Bhagwat Fails to Teach Dependent Claim Features

Several dependent claim features are also missing from the combination of D'Argence and Bhagwat.

Regarding claims 29 and 40, the Examiner relies on D'Argence for the feature "wherein at least part of the access relevant information is extracted by sniffing user plane traffic for at least one terminal, which access relevant information is used to calculate traffic volume and/or throughput of the at least one terminal." But the Examiner admitted that D'Argence does not teach the claimed listening agent sniffing user plane traffic including a source and destination address and data payload of a sniffed message. Page 13, lines 24-29 of D'Argence simply describe that a user plane exists with no reference to sniffing. Nor does page 19, lines 1-3 describe <u>sniffing</u> user plane traffic to obtain information to calculate traffic volume or throughput of a terminal. D'Argence requests that special messages be sent directly to the CRRM rather than sniffing existing messages.

Nor does Bhagwat teach sniffing user plane traffic for a terminal for access relevant information that is used to calculate traffic volume and/or throughput of

the terminal. Instead, Bhagwat sniffs channels to detect an unauthorized access point or other unauthorized station. See [0071].

Similar deficiencies are present for claims 33 and 44 which recite "wherein at least part of the access relevant information extracted by sniffing messages sent within the first access network indicates how frequently a channel was busy, which indicates a load of the channel." Page 4, lines 10-11 of D'Argence does not relate the "dynamic information" to any sort of sniffing existing messages. Bhagwat's channel sniffs to detect an unauthorized access point or other unauthorized station and not to indicate how frequently a channel was busy, which indicates a load of the channel.

The Obviousness Rejection of Claims 27 and 38 Under 35 U.S.C. §103 Based on D'Argence in view of Bhagwat and Lee Is Improper

Lee fails to overcome the deficiencies for the main rejection based on D'Argence in view of Bhagwat, and thus, the rejection of claims 27 and 38 is improper for the reasons noted above.

The Obviousness Rejection of Claims 30 and 41 Under 35 U.S.C. §103 Based on D'Argence in view of Bhagwat and Nikkelen Is Improper

Nikkelen fails to overcome the deficiencies for the main rejection based on D'Argence in view of Bhagwat, and thus, the rejection of claims 30 and 41 is improper for the reasons noted above.

The Obviousness Rejection of Claim 31 Under 35 U.S.C. §103 Based on D'Argence in view of Bhagwat and Brahmbhatt Is Improper

Brahmbhatt fails to overcome the deficiencies for the main rejection based on D'Argence in view of Bhagwat, and thus, the rejection of claim 31 is improper for the reasons noted above.

The Obviousness Rejection of Claim 42 Under 35 U.S.C. §103 Based on D'Argence in view of Bhagwat, Nikkelen, and Brahmbhatt Is Improper

The Examiner uses four references in an effort to reject claim 42—further evidence of nonobviousness. Nikkelen, and Brahmbhatt also fail to overcome the deficiencies for the main rejection based on D'Argence in view of Bhagwat. Thus, the rejection of claim 42 is improper.

The Obviousness Rejection of Claims 50 and 51 Under 35 U.S.C. §103 Based on D'Argence in view of Bhagwat and Laroia Is Improper

The subject matter of claims 50 and 51 is missing from the applied references. Claim 51 recites "wherein when the access relevant information is expressed in non-comparable quantities, the method further comprises converting access relevant information from at least one of the first and second access networks to an access-independent quantity before performing the comparison of the access relevant information extracted from the first access network to the access relevant information received from the at least one second access network."

Conversion of the claimed sniffed access relevant information is admitted missing in D'Argence and Bhagwat on page 11 of the office action.

Laroia teaches comparing the signal strength detected for different sectors on different broadcast channels or different carrier frequencies. But signal strength is the common parameter that can be compared. Nor is the claimed conversion described. The Examiner substitutes a different word "derived" for the claimed converting, but that substitution is unreasonable. The signal strength derived from two different sectors is not "expressed in non-comparable quantities," as claimed.

Moreover, Laoria fails to overcome the deficiencies noted above for the main rejection based on D'Argence in view of Bhagwat.
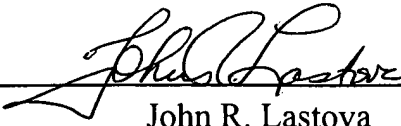
CONCLUSION

Thus, there are multiple separate grounds upon which the rejections should be reversed. First, the combination of D'Argence and Bhagwat fails to teach multiple features of the independent claims. Second, there is no legal basis for the proposed modification and combination of D'Argence and Bhagwat. Third, additional features in the argued dependent claims are not taught by the applied references. Fourth, the multiple tertiary references applied by the Examiner further evidence the weakness of the obviousness position. The final rejection should be reversed and the application passed to allowance.

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Respectfully submitted,

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Appendix A - Claims on Appeal

VIII. CLAIMS APPENDIX

1-23. (Cancelled)

24. (previously presented) A method for managing radio resources for providing wireless access to a communication system to a number of terminals, wherein the communication system comprises a first access network using a first access technology and a second access network using a second access technology different from the first access technology, wherein the method comprises the steps of:

receiving access relevant information from the first access network and the second access network, wherein the access relevant information comprises information extracted by sniffing messages sent within the first access network that describes a state of at least one of the access networks based on signal measurements and/or load measurements;

wherein the messages are sniffed by a listening agent and are directed to an entity in the first access network other than the listening agent, and wherein sniffing a message includes reading a source address, a destination address, and a data payload of the sniffed message without influencing the sniffed message;

comparing the received access relevant information extracted from messages sent within the first access network to access relevant information received from the second access network, wherein the access relevant information is expressed in comparable quantities; and

determining which access network that provides a best connection to a terminal and which access network should be accessed, based on at least a result of the comparison of the received access relevant information extracted from messages sent within the first access network to the access relevant information received from the at least one second access network.

25. (previously presented) The method according to claim 24 wherein the first access network is a wireless local area network.

26. (previously presented) The method according to claim 24 wherein at least part of the messages sent within the first access network are messages sent between access points.

27. (previously presented) The method according to claim 26 wherein the at least part of the messages sent within the first access network are defined by the Inter-Access Point Protocol (IAPP).

28. (previously presented) The method according to claim 24 wherein the extracted access relevant information comprises an identification of a terminal and an identification of an access point that the terminal has associated with.

29. (previously presented) The method according to claim 24 wherein at least part of the access relevant information is extracted by sniffing user plane traffic for at least one terminal, which access relevant information is used to calculate traffic volume and/or throughput of the at least one terminal.

30. (previously presented) The method according to claim 24 wherein at least part of the messages sent within the first access network are sent between access points and a router.

31. (previously presented) The method according to claim 24 wherein the at least part of the messages sent within the first access network are defined by the Light Weight Access Point Protocol (LWAPP).

32. (previously presented) The method according to claim 24 wherein at least part of the messages sent within the first access network are sent between at least one terminal and an access point.

33. (previously presented) The method according to claim 24 wherein at least part of the access relevant information extracted by sniffing messages sent within the first access network indicates how frequently a channel was busy, which indicates a load of the channel.

34. (cancelled)

35. (previously presented) A system for managing radio resources for providing

wireless access to a communication system to a number of terminals, wherein the

communication system comprises a first access network using a first access technology

and a second access network using a second access technology different to the first access

technology, wherein the system for managing radio resources comprises:

at least one listening agent arranged to:

extract access relevant information for at least the first access network by

sniffing messages sent within at least the first access network, wherein the access relevant

information comprises information describing a state of at least one of the access

networks based on signal measurements and/or load measurements, wherein the

messages are directed to an entity in the first access network other than the listening

agent, and wherein sniffing a message includes reading a source address, a destination

address, and a data payload of the sniffed message without influencing the sniffed

message;

send the access relevant information to an access selection manager,

an access selection manager arranged to:

compare the received access relevant information extracted from the first

access network to access relevant information received from second access network,

wherein the access relevant information is expressed in comparable quantities; and

determine which of the first access network and the second access network provides the best connection to a terminal and which access network should be accessed based at least on the comparison of the access relevant information extracted from the first access network to the access relevant information received from the at least one second access network.

36. (previously presented) The system according to claim 35 wherein the first access network is a wireless local area network.

37. (previously presented) The system according to claim 35 wherein at least part of the messages sent within the first access network are messages sent between access points.

38. (previously presented) The system according to claim 37 wherein the at least part of the messages sent within the first access network are defined by the Inter-Access Point Protocol (IAPP).

39. (previously presented) The system according to claim 35 wherein the extracted access relevant information comprises an identification of a terminal and an identification of an access point that the terminal has associated with.

40. (previously presented) The system according to claim 35 wherein at least part of the access relevant information is extracted by sniffing user plane traffic for at least one terminal, which access relevant information is used to calculate traffic volume and/or throughput of the at least one terminal.

41. (previously presented) The system according to claim 35 wherein at least part of the messages sent within the first access network are sent between access points and a router.

42. (previously presented) The system according to claim 41 wherein the at least part of the messages sent within the first access network are defined by the Light Weight Access Point Protocol (LWAPP).

43. (previously presented) The system according to claim 35 wherein at least part of the messages sent within the first access network are sent between at least one terminal and an access point.

44. (previously presented) The system according to claim 35 wherein at least part of the access relevant information extracted by sniffing messages sent within the first access network indicates how frequently a channel was busy, which indicates a load of the channel.

45. (cancelled)

46. (previously presented) A listening agent for use in a system for managing radio resources, which system provides wireless access to a communication system to a number of terminals, wherein the communication system comprises a first access network using a first access technology and a second access network using a second access technology different to the first access technology, wherein the listening agent is arranged to:

extract access relevant information for at least the first access network by sniffing messages sent within at least the first access network, wherein the access relevant information comprises information describing a state of at least one of the access networks based on signal measurements and/or load measurements;

wherein the sniffed messages are directed to an entity in the first access network other than the listening agent, and wherein sniffing a message includes reading a source address, a destination address, and a data payload of the sniffed message without influencing the sniffed message; and

send the access relevant information to an access selection manager for use in selecting which access network provides a best connection to a terminal and which access network should be accessed based on at least a result of a comparison of the sent access relevant information and access relevant information received for the second access network.

47-49. Canceled.

50. (previously presented) The system according to claim 35, wherein when the access relevant information is expressed in non-comparable quantities, the access selection manager is arranged to convert access relevant information from at least one of the first and second access networks to an access-independent quantity before performing the comparison of the access relevant information extracted from the first access network to the access relevant information received from the at least one second access network.

51. (previously presented) The method according to claim 24, wherein when the access relevant information is expressed in non-comparable quantities, the method further comprises converting access relevant information from at least one of the first and second access networks to an access-independent quantity before performing the comparison of the access relevant information extracted from the first access network to the access relevant information received from the at least one second access network.

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IX. EVIDENCE APPENDIX

There is no evidence appendix.

X. RELATED PROCEEDINGS APPENDIX

There is no related proceedings appendix.

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